209

PREDICTABILITY AND COSTS ASSOCIATED WITH GOOD AND POOR MOBILIZERS USING A COMBINATION OF VP-16 AND G-CSF FOR PERIPHERAL BLOOD STEM CELL (PBSC) MOBILIZATION AND COLLECTION

Wood, W.A., Whitley, J.S., Moore, D.T., Sharf, A., Irons, R., Rao, K.V., Serody, J.S., Gabriel, D.A., Coghill, J.M., Shea, T.C. University of North Carolina at Chapel Hill, NC

Introduction: The combination of chemotherapy and G-CSF for stem cell mobilization prior to autologous stem cell transplantation (ASCT) provides additional cytoreduction and generally higher cell yields than cytokine alone. We have investigated the use of mid-dose VP-16 plus G-CSF as a regimen with little toxicity that can take advantage of these properties. Here, we report our experience with this regimen for pts with multiple myeloma and lymphoma, focusing on poor mobilizers.

Methods: Between May 2004 and June 2009, 152 pts with MM and 136 pts with lymphoma (98 NHL, 38 HD) underwent ASCT following the use of VP-16 (375 mg/m2 on D#1 and D#2) and G-CSF (5mcg/kg twice daily from D#3 through the final day of collection) for mobilization. 14 pts also received one dose of Rituximab (375 mg/m2) on D#1. Collection was initiated when the peripheral blood CD34 count was >7/ul. National averages and UNC-specific costs were used to calculate total costs associated with mobilization. The costs of second and third mobilizations were not included. Logistic regression was used to analyze the relationship between pre-mobilization variables and stem cell yields. Poor mobilizers were defined as pts failing to collect 5×10^6 cells in one or two days.

Results: Of 152 pts with MM, 2 (1%) were poor mobilizers, compared with 54 of 136 (40%) pts with lymphoma ($p < 0.001$). 9 required >1 mobilization for yields less than 2×10^6. Average total costs for lymphoma pts were $14488 (good mobilizers) vs $26082 (poor mobilizers), with etoposide accounting for $2640 in each. There were differences in G-CSF use ($5390 vs $8216), pheresis procedures ($1857 vs $5635), and product processing, storage and infusion ($1649 vs $4382) between the two groups. Transfusions and treatment for fevers were more frequent in poor mobilizers ($294.95 vs $1467.40/pt) and may also have reflected marrow reserve in this group. The best predictor for poor mobilization in lymphoma pts was a pre-collection CD34 peripheral blood count < 26/ul($p < 0.0001$). This yielded a sensitivity of 89% and specificity of 86% for predicting poor mobilizers.

Conclusion: Though VP-16 and G-CSF is an effective mobilization regimen for nearly all pts with MM, a significant proportion of lymphoma pts are poor mobilizers and experience higher costs and complication rates. The peripheral blood CD34 count on the day of apheresis appears to be the best predictor of good or poor mobilization when using this regimen in lymphoma pts.

210

RACIAL DIFFERENCES IN OUTCOME AFTER AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION FOR MULTIPLE MYELOMA: INFLUENCE OF TIME TO REFERRAL TO TRANSPLANT CENTER

Manos, J.A., Costa, L.J., Schaub, C., Stuart, R.K. Medical University of South Carolina, Charleston, SC

Background: Autologous hematopoietic stem cell transplantation (AHSCT) is considered a key component of the management of newly diagnosed, transplant eligible, multiple myeloma (MM) patients. Survival after diagnosis of multiple myeloma is inferior in African-American (AA) patients when compared to Caucasian patients. Whether this difference persists in patients treated with AHSCT is unknown and conflicting results have arisen from different series. We analyzed the differences in outcome between Caucasian (C) and non-Caucasian (NC-predominantly AA) patients undergoing AHSCT for MM at our institution inquiring if differences in time to referral to the transplant center would translate into differences in outcome.

Methods: Retrospective analysis of the Medical University of South Carolina (MUSC) MM transplant database with particular attention to time from diagnosis to transplant (surrogate for time to referral) and survival after transplantation.

Results: Between 1999 and 2009, 102 patients underwent a first AHSCT for MM at MUSC. Sixty two patients (61%) were C and 40 (39%) NC (38 were AA). Median age at the time of diagnosis was 58 (39-70) for C and 56 (34-69) for NC (p = n.s.). Fifty four (53%) were female. There was no difference between C and NC in hemoglobin, calcium, creatinine or B2 microglobulin prior to AHSCT. Nine three (91%) patients received conditioning chemotherapy with Melphalan 200 mg/m^2. Day 100 mortality was 4% (4.8% for C vs. 2.5% for NC, P = n.s.). Median interval from diagnosis to transplant, a surrogate of access to care, was 10 months (range 3-57) for C and 10 months (range 5-42) for NC (p = n.s.). There was no difference between racial groups in overall survival from the time of diagnosis (median 59.3 months for C vs. 53.3 months for NC, P = n.s) or from the time of first AHSCT (median 51.8 months for C vs 36.5 months for NC, P = n.s.).

Conclusion: In a setting where caucasian and non-caucasian patients have similar access to AHSCT, no race-associated discrepancy in outcome was identified. Inferior outcome for AA patients with MM reported in prior series may have resulted exclusively from differences in access to treatments, including AHSCT.

211

ALLOGENEIC REDUCED-INTENSITY STEM CELL TRANSPLANTATION WITH FLUDARABINE AND MELPHALAN FOR REFRACTORY OR RELAPSED FOLLICULAR LYMPHOMA

Ono, Y., Mori, T., Kato, J., Aisa, Y., Okamoto, S. Keio University School of Medicine, Tokyo, Japan

Some reports have demonstrated the efficacy of allogeneic stem cell transplantation (SCT) for refractory or relapsed follicular lymphoma. To reduce the transplant-related mortality, reduced-intensity stem cell transplantation has recently been used. We here present the results of a retrospective analysis of the safety and efficacy of allogeneic RIST for refractory or relapsed follicular lymphoma.

Patients and Methods: Twenty-two patients with relapsed and refractory follicular lymphoma underwent RIST at Keio University Hospital between July 2002 and January 2009 were retrospectively evaluated. The median age at the time of transplant was 49.5years (range: 34-62). Stem cell sources and donor type were bone marrow or peripheral blood stem cells from human leukocyte antigen(HLA)-identical sibling (n = 6), bone marrow from HLA-serologically matched unrelated donor (n = 14), or cord blood stem cells from unrelated donor (n = 2). The conditioning regimen consisted of fludarabine (125 mg/m^2) and melphalan (140 mg/m^2). Four or eight Gy of total body irradiation was added for cord blood transplantation (n = 2). For the prophylaxis of graft-versus-host disease (GVHD), cyclosporin A (CSA) with short-term methotrexate (MTX) was given for SCT from a sibling donor, and tacrolimus with short-term MTX was given for SCT from an unrelated donor including cord blood transplantation (CBT).

Results: All patients achieved neutrophil engraftment. The median follow-up period of the 18 patients who were alive at the date of analysis was 54 months (range: 7- 85 months). Causes of deaths were bacterial infection in 2 patients, and severe GVHD in 2 patients. The 5-year overall survival was 81% (95% CI: 65.1%-97.8%), and progression free survival is 71.5% (95% CI 52.1%-90.9%). Although disease relapse was observed in 2 patients who had undergone CBT, complete remission was reached solely by the discontinuation of tacrolimus. Surviving patients are all in good condition, and had an ECOG performance status of 0 or 1.

Conclusion: These results strongly suggest that RIST could be a curative treatment for refractory or relapsed follicular lymphoma, and provide an excellent survival. Because of a low risk of disease relapse and a possibility of inducing graft-versus-lymphoma effect, more intensive immunosuppressive therapy should be considered in order to reduce GVHD-related mortality.